

REMARKS

This amendment responds to the Official Action dated July 9, 2010. Claims 16-22 and 24-37 have been rejected over the prior art. Claims 16, 25, 30, 36 and 37 have been amended to include subject matter found at least at paragraphs [0016], [0017] and [0092] of the specification. Claims 20-21 and 35 have been cancelled.

As an initial matter, Applicants respectfully request acknowledgement of the certified English translation of the priority document, submitted on November 20, 2009.

Favorable reconsideration of this application in view of the following remarks is respectfully requested.

Examiner Interview

Initially, Applicants and their representative wish to thank Examiner Graham and Examiner's Supervisor Marcheshi for the courtesies extended during the telephone interview conducted on November 9, 2010. During the interview, Applicants' representative asserted that neither Blanchard nor Wakefield discloses a dispersion with an antioxidant as recited in Claims 16, 25, 20, 36 and 37. Moreover, Applicants' representative pointed out that the inclusion of an antioxidant unexpectedly prevents cerium from precipitating out as shown in paragraphs [0091] through [0116] of the specification. However, the Examiner noted that she believes the claims are very broad and the examples are allegedly not commensurate in scope with the claims. Thus, the Examiner suggested that amending the claims to be commensurate in scope with the examples provided in the specification may render Applicants arguments more persuasive.

Rejection Under 35 U.S.C. § 112, First Paragraph

Claim 35 has been rejected under 35 U.S.C. § 112, first paragraph, allegedly being enabling for at least 90%, does not reasonably provide enablement for 1% to 32% by weight of rare earth oxide and element (E).

In response, Claim 35 has been cancelled.

Rejection under 35 U.S.C. §103

The Official Action rejected Claims 16-22 and 24-37 under 35 U.S.C. §103(a) as allegedly unpatentable over International Application No. WO 01/10545 to Blanchard et al. ("Blanchard") in view of U.S. Patent Publication No. 2005/0066571 to Wakefield ("Wakefield").

Specifically, the Official Action alleges that:

Although BLANCHARD does not specifically teach antioxidants, this reference does in fact teach diluents that are cryo-TEM, aromatic solvents and alcohols which are disclosed as preservatives (see para 26) and it is the examiners position that antioxidants are also known in the art as preservatives. A skilled artisan would appreciate that additives are multifunctional, and it is known in the art that antioxidants and preservatives both have properties that inhibit oxidation.

The Official Action admits that:

BLANCHARD does not explicitly disclose that the diluent (antioxidant) are phenols, however WAKEFIELD does disclose the use of phenols as antioxidants.

The Official action alleges that:

WAKEFIELD teaches an additive comprising cerium oxide, a rare earth compound, a metal from group IIA and IIIB (abstract); and an antioxidant that is phenolic and alkylphenol such as 2, 6-di-tert-

butylphenol (paragraph 53); which can be in an organic solvent (paragraph 37); and an organic carboxylic acid (paragraph 27) which is an amphiphilic acid.

It would have been obvious to one of ordinary skill in the art to combine the additive of BLANCHARD with the additive of WAKEFIELD if said composition was so desired, because all the claimed elements were known in the prior art at the time of invention and the motivation to combine BLANCHARD and WAKEFIELD is taught in WAKEFIELD in paragraph 5, that for cerium to be effective in diesel fuels as an additive it must be used in a stable dispersion.

(Official Action at pages 3-5).

Superior and Unexpected Results

First of all, Applicants maintain that there is no teaching in the art as applied that the presence of the antioxidant in the dispersion enhances the stability of the particles in the fuel, and the inventors found that the claimed dispersions exhibited superior properties. Such evidence of unobvious or unexpected advantageous properties, such as superiority in a property the claimed compound shares with the prior art, can rebut *prima facie* obviousness. MPEP 716.02(a).II. The PTO must consider comparative data in the specification in determining whether the claimed invention is patentable. *In re Soni*, 34 USPQ2d 1684, 1687 (Fed. Cir. 1995).

Here, it was found that the addition of antioxidant improved the ability of cerium to remain in a condition of colloidal dispersion as compared to comparative examples without antioxidant. These superior and unexpected results are cited in the present specification. See Specification, Example 1. As such, independent Claims 16, 25, 30, 36 and 37 are patentable over the references as combined. All Claims which depend therefrom are also patentable for at least the reasons Claims 16, 25, 30, 36 and 37 are patentable.

The References Fail to Teach or Suggest all of the Claim Features

Moreover, under 35 U.S.C. § 103(a), the Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. M.P.E.P. § 2142. As set forth in M.P.E.P. § 2143, one requirement for establishing a *prima facie* case of obviousness is that the combination of references must teach or suggest all the claim features (Emphasis Added). *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Official Action admits that "Blanchard does not specifically teach antioxidants," but contends that "the diluents of aromatic solvents and alcohols are equivalent to antioxidants." (Official Action at page 4)

Applicants interpret the rejection to contend that the diluents of aromatic solvents and alcohols in Blanchard inherently include antioxidants. However, for a rejection based on inherency, the Examiner must first provide a rationale or evidence tending to show inherency. MPEP 2111.04.IV. No such rationale or evidence has been provided. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). No evidence of record indicates that the diluents of aromatic solvents and alcohols of Blanchard necessarily include antioxidants.

Blanchard discloses colloidal dispersions of rare earth. There is no disclosure in Blanchard of the addition of an antioxidant agent.

Moreover, Wakefield does not describe nor suggest a dispersion comprising an antioxidant, but merely discloses the presence of an antioxidant in a fuel. Although Wakefield desires stability in a dispersion, Wakefield fails to recognize or suggest that the addition of the claimed antioxidant agent to the dispersion, and not the fuel, will improve the stability of the dispersion.

Wakefield does not teach dispersions comprising an antioxidant, and therefore the combination of Blanchard and Wakefield would not result in the claimed invention.

For at least these reasons, Applicants respectfully request reconsideration and withdrawal of the rejection.

Separate Patentability of Claim 25

Claim 25 recites, *inter alia*, particles in the form of aggregates whose d_{80} , advantageously d_{90} , is not more than 5 nanometers. Blanchard discloses particles with a d_{50} of 2.5 nm, and is silent with regard to d_{80} or d_{90} .

Accordingly, because the references as applied fail to disclose the features of the claim, Applicants respectfully submit that claim 25 is patentable.

Conclusion

In view of the foregoing, it is submitted that all claims are in condition for allowance. Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be

helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that she be contacted at the number indicated below.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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By:


Nancy K. Britt
Nancy K. Britt
Registration No. 57,856

Customer No. 21839
703 836 6620